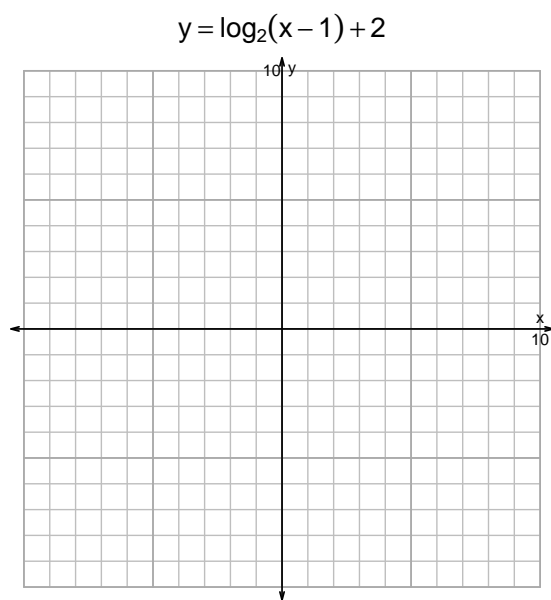
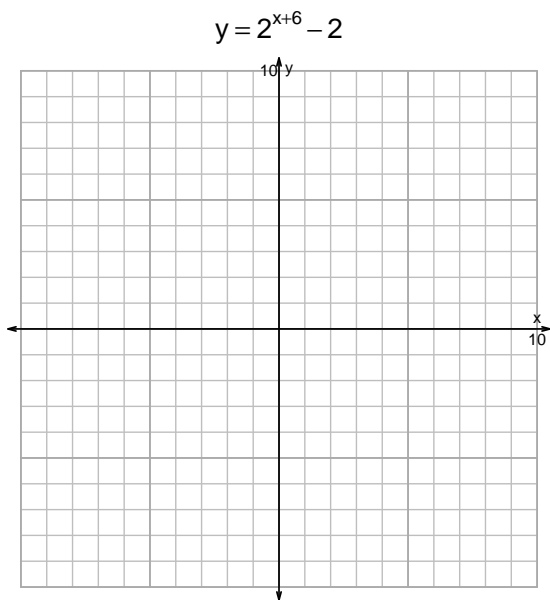


Name: \_\_\_\_\_

Date: \_\_\_\_\_

s18: EXP LOG (QUIZ v321)

1. (10 pts) Graph  $y = 2^{x+6} - 2$  and  $y = \log_2(x - 1) + 2$  on the grids below. Also, draw any asymptotes with dashed lines.

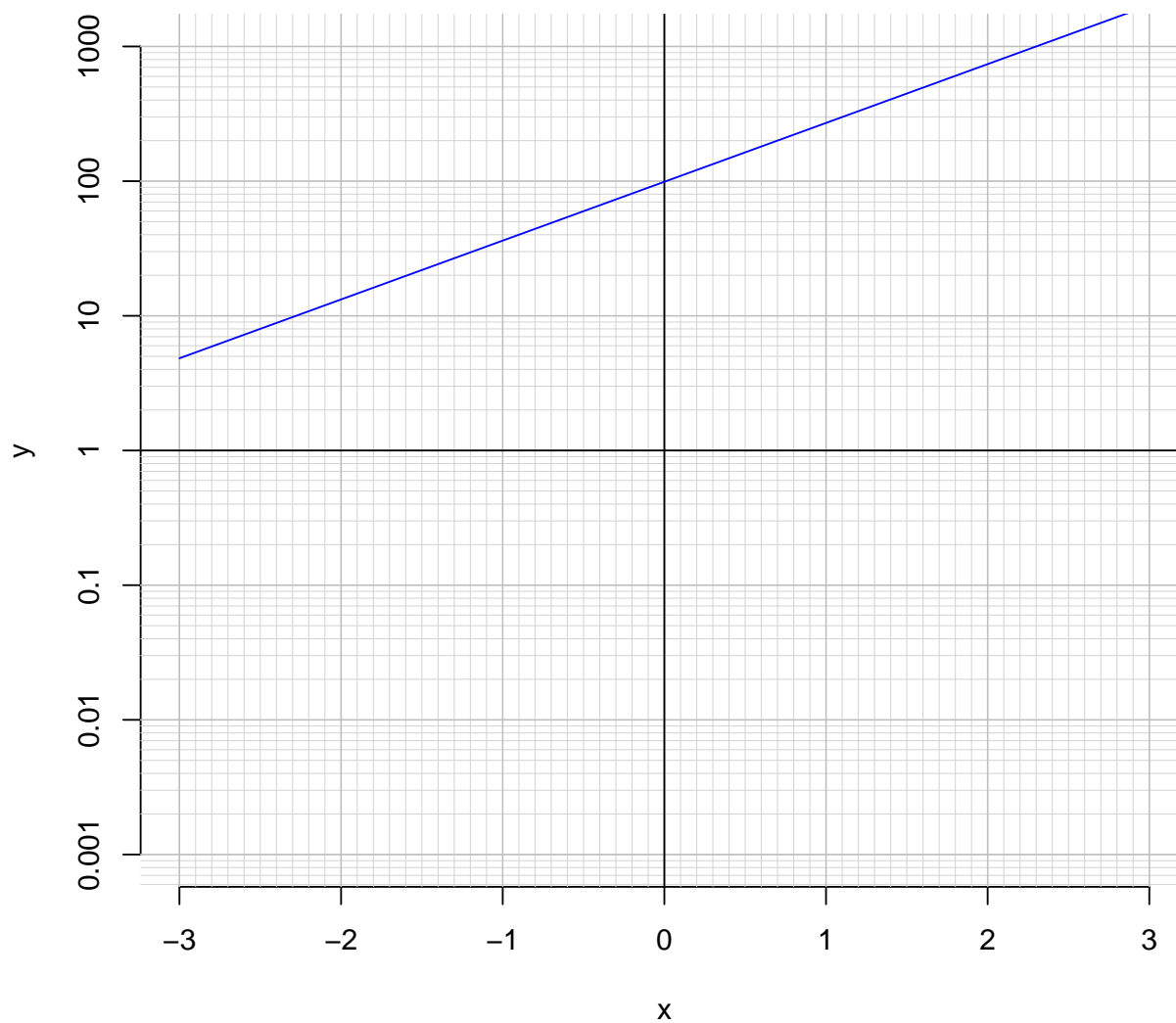


*Somewhat useful hint:  $2^3 = 8$ , and thus  $\log_2(8) = 3$ .*

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$11 = \left(\frac{5}{3}\right) \cdot 2^{-7t/4}$$

3. (10 pts) An exponential function  $f(x) = 98.9 \cdot e^{1.01x}$  is graphed below on a semi-log plot.



- a. Using the plot above, evaluate  $f(0.7)$ .

- b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{1}{1.01} \cdot \ln\left(\frac{x}{98.9}\right)$$

Using the plot above, evaluate  $f^{-1}(40)$ .